RECLAMATION
Managing Water in the West

FINDING OF NO SIGNIFICANT IMPACT

Santa Barbara County Parks Water System Upgrades at Lake Cachuma Campground

FONSI-09-173

Recommended by:

Date: 06/22/2010

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Introduction

In accordance with section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as amended, the South-Central California Area Office of the U.S. Bureau of Reclamation (Reclamation), has determined that an environmental impact statement is not required for the awarding of an American Recovery and Reinvestment Act of 2009 Water Marketing and Efficiency Challenge grant for the Santa Barbara County Parks Water System Upgrades Project at Lake Cachuma Campground (Project). This Finding of No Significant Impact is supported by Reclamation's Draft Environmental Assessment (EA) Number EA-09-173, *Santa Barbara County Parks Water System Upgrades at Lake Cachuma Campground*, and is hereby incorporated by reference.

Background

The American Recovery and Reinvestment Act of 2009 (ARRA) is an economic stimulus package, worth up to $787 billion, which was signed into law on February 17, 2009 for the purpose of stimulating the United States economy during a significant economic downturn. The Department of the Interior has been tasked with managing $3 billion in investments as part of ARRA in order to jumpstart the economy, create or save jobs, and address long-neglected challenges. Of the $3 billion, $1 billion will be invested in water infrastructure across the United States by the Bureau of Reclamation (Reclamation). Out of the $1 billion, $260 million will go to projects in California that will expand water supplies, repair aging water infrastructure, and mitigate the effects of a devastating drought the state is currently experiencing.

The County of Santa Barbara Parks Department (Parks), under an operating agreement with Reclamation, administers the Lake Cachuma Campground as part of the Cachuma Lake Recreation Area located on the Santa Ynez River approximately 25 miles northwest of Santa Barbara, California. New fire codes and standards have been developed by the Santa Barbara County Fire Chief which requires additional water supply availability for fire suppression and health and safety needs than what is currently available at the campground. In addition, the existing Water Treatment Facility connects to the fire suppression system through an aging pipeline system. Consequently, Parks has applied for ARRA funds through their operating agreement with Reclamation for their project which involves the relocation and replacement of aging infrastructure of their existing Water Treatment Plant, the addition of a second water storage reservoir for fire suppression, and the replacement of the aging appurtenances and pipelines that connect the Water Treatment Facility and the fires suppression system.

Parks will implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action (see Table 1). Environmental consequences for resource areas assume the measures specified will be fully implemented.

Table 1 Environmental Protection Measures

Resource	Protection Measure
Air Quality	If the construction site is graded and left undeveloped for over four weeks, the applicant shall employ the following methods immediately to inhibit dust generation: • seeding and watering to re-vegetate graded areas; and/or • spreading of soil binders; and/or any other methods deemed appropriate by Parks.
Air Quality	Dust generated by the development activities shall be kept to a minimum with a goal of retaining dust on the site. Follow the dust control measures listed below: • During clearing, grading, earth moving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems are to be used to prevent dust from leaving the site and to create a crust after each day's activities cease. • During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this will include wetting down such areas in the later morning and after work is completed for the day and whenever wind exceeds 15 miles per hour. Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation.
Air Quality	The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering as necessary to prevent transport of dust off-site. Their duties shall include holiday and weekend periods when work may not be in progress.
Biological Resources	In order to protect existing oak trees and minimize adverse effects of grading and construction onsite, a Tree Protection and Replacement Plan (see Appendix B) shall be implemented. No ground disturbance including grading or trenching shall occur within six feet of the dripline (dripline buffer area) of any oak tree unless specifically authorized on approved plans. Any protected oaks trees which are removed, relocated and/or damaged shall be replaced on a 10:1 basis with 1 gallon size saplings grown from seed obtained from the same watershed as the project site.
Biological Resources	A re-vegetation or restoration plan shall be implemented. The plan shall utilize native, fast growing, vegetation that will quickly cover the outlet structure to the storm drain, and thrive in a rocky environment for erosion control.
Biological Resources	Biological surveys shall be done by Reclamation-approved biologists no later than two weeks prior to construction activities during the bird nesting season (February 15 through September 15). If nesting birds are observed within 200 feet of construction/grading areas, all construction or grading activities shall be postponed or halted at the discretion of the biologist until the nest is vacated and the juveniles have fledged.
Water Resources	Outlet structures for energy dissipation shall minimize disturbance to the natural drainage and avoid the use of unnatural materials, such as concrete, grouted rock, and asphalt rubble. Where hard bank materials must be used, natural rock, gabions, crib wall or other more natural means of energy dissipation shall be preferred. Rock grouting shall only be used if no other feasible alternative is available as determined by Parks.
Water Resources	Best available erosion and sediment control measures shall be implemented during grading and construction. Best available erosion and sediment control measures may include but are not limited to use of sediment basins, gravel bags, silt fences, geo-bags or gravel and geotextile fabric berms, erosion control blankets, coir rolls, jute net, and straw bales. Storm drain inlets shall be protected from sediment-laden waters by use of inlet protection devices such as gravel bag barriers, filter fabric fences, block and gravel filters, and excavated inlet sediment traps. Sediment control measures shall be maintained for the duration of the grading period and until graded areas have been stabilized by structures, long-term erosion control measures or landscaping. Construction entrances and exits shall be stabilized using gravel beds, rumble plates, or other measures to prevent sediment from being tracked onto adjacent roadways. Any sediment or other materials tracked off site shall be removed the same day as they are tracked using dry cleaning methods.

Cultural Resources	Monitoring by Archaeologist and Native American Cultural Monitors during construction activities. Costs to be borne by Parks.
Cultural Resources	Demolition of the existing Water Treatment Facility cannot take place until Reclamation completes its evaluation of that facility for eligibility on the National Register of Historic Places (National Register).

Reclamation's finding that implementation of the Proposed Action will result in no significant impact to the quality of the human environment is supported by the following factors:

FINDINGS

Water Resources

Under the Proposed Action, an additional 200,000 gallons will be extracted from Lake Cachuma for storage in the new water tank. This additional storage will be used to meet the County Fire Chief's new codes and standards for fire suppression availability. The water used for fire suppression will come from the Santa Barbara County Water Agency's contracted water allocation and will not impact water rights or fish releases. There will be no impacts to water deliveries as the small amount of water will be less than one acre and will come from an existing contract. There will be no impacts to federal facilities. In addition, Parks will implement best management practices as well as environmental commitments listed under Section 2.2.4 of the EA in order to ensure that there will be no water quality impacts, erosion, or sedimentation as a result of the Proposed Action. Therefore, there will be no significant impacts to water resources as a result of the Proposed Action.

Recreation

The Proposed Action will represent a minor loss of recreational space and impacts to natural open space and wildlife habitat; however, it will not change current recreational uses within the campground. Under the Proposed Action, the campground water supply system will be upgraded to better serve existing recreational uses. There will be no temporary impacts to recreational use of the campground as no roads will be closed down due to construction of the facilities. Consequently, the Proposed Action will have no significant impacts to recreational use.

Biological Resources

Effects from the Proposed Action will include temporary and permanent effects to the landscape and vegetation. The new Water Treatment facility will be in the previously developed campground area, which is currently a combination of paved parking area and irrigated non-native lawn. No significant vegetation will be lost for the new Water Treatment facility, as the Proposed Action will construct the new facility on the non-native grass area and the removed facility will no longer exist. There is a native oak nearby that could be affected by the construction of the new facility, primarily by damage from the construction equipment. The environmental commitments, however, include protection measures that will prevent (avoid) those effects by maintaining a buffer around the tree.

The new Water Storage Tank will result in the loss of six live oak trees and will result in the degradation of approximately 0.5 acres, but not more than one acre, of oak woodland habitat. There are also nearby oaks not planned for removal that warrant protection during construction activities, and which will be protected by the same environmental commitments described earlier. Mitigation

for the removed oak trees has been identified as replacement planting, at a ratio of 10:1 (planted oaks:removed oaks), which will offset the effects of the lost trees.

Use of water from Lake Cachuma to supply the Water Storage Tank will require approximately 200,000 gallons. One acre-foot is approximately 325,000 gallons. This water, while a relatively minimal amount in comparison to the 205,000 acre-foot capacity of the lake (0.0003%), will not reduce the amount of water dedicated and available to implement the Biological Opinion, and thus will not affect the listed steelhead trout. The small amount of water will not noticeably reduce the amount of water in the lake that supports the fish species inhabiting the lake, nor will it noticeably reduce the amount of water available and used by species downstream of the dam to the confluence with the Pacific Ocean.

Effects to local wildlife, primarily bird species, resulting from the construction of the Proposed Action, will be the result of disturbance of roosting and foraging habitat, and potentially of nesting habitat. The environmental commitments included as part of the Proposed Action, specifically, the avoidance of work during the nesting period if any nests are identified, will avoid effects to nesting birds. There are also a large number of other potential roosting and foraging sites within the immediate proximity of the project area that will support any temporarily displaced birds. None of the bird species that are known in the area that might be using the County park as roosting or foraging habitat have home range sizes large enough that inter- or intraspecific competition will preclude use of those proximate sites.

There are no federally listed species or federally listed critical habitat located within the Proposed Action area; therefore, there will be No Effect to species listed under the federal Endangered Species Act (ESA), or to critical habitats designated under the ESA.

Cultural Resources

The proposed undertaking to provide ARRA funds and the approval of the Proposed Action to Parks was determined to be the type of action that had the potential to cause effects to historic properties assuming historic properties were present. As a result, Reclamation initiated the Section 106 process outlined in the regulations at 36 CFR Part 800. Reclamation initiated an effort to identify historic properties within the Area of Potential Effect which included examining existing literature, conducting cultural resource surveys and subsurface testing, and consulting with Indian Tribes. As a result of these efforts, Reclamation entered into consultation with the California State Historic Preservation Officer (SHPO) seeking their concurrence on our finding of no adverse effect to historic properties on May 3, 2010.

The consultation package made certain commitments that are expected to be followed and implemented by Parks. These commitments are, (1) Parks will have archaeological monitors and Native American cultural monitors during ground disturbing actions and (2) Parks will not be permitted to demolish the existing water treatment facility until such a time that Reclamation can complete its evaluation of that facility for eligibility on the National Register. Reclamation has already initiated the building inventory efforts to fulfill our commitments.

The SHPO concurred with Reclamations finding on May 24, 2010 noting that their concurrence is based on our commitments outlined in the consultation letter and Section 106 report as well as

the EA-09-173 Section 3.5.1.2. The SHPO concurrence was received by Reclamation on June 2, 2010.

Indian Trust Assets

The Proposed Action has no potential to impact Indian Trust Assets as there are none in the action area. The nearest Indian Trust Asset is a Public Domain Allotment approximately six miles southwest of the Proposed Action location.

Land Use

The Proposed Action will represent a minor loss of recreational space and impacts to natural open space and wildlife habitat; however, it will not change current land uses within the campground. Under the Proposed Action, the campground water supply system will be upgraded to better serve existing land uses. Consequently, the Proposed Action will maintain current land uses and will have no significant impacts to land use.

Socioeconomic Resources

The Proposed Action will have a slight beneficial impact as additional, but temporary, jobs are created during the construction period. The additional fire suppression infrastructure will provide increased fire suppression capabilities which could protect facilities within the campground. This could provide a potential beneficial impact to socioeconomic resources within the campground.

Environmental Justice

The Proposed Action will not cause dislocation, changes in employment, or increase flood, drought, or disease nor will it disproportionately impact economically disadvantaged or minority populations. Therefore, there will be no significant impacts to Environmental Justice as a result of the Proposed Action.

Air Quality

Estimated construction emissions were calculated for the Proposed Action utilizing the *Urbemis 2007 Version 9.2.4* model and are well below the federal *de minimis* standards. Additionally, Parks has incorporated mitigation measures that will reduce air quality impacts from fugitive dust (see Table 1). Therefore, there will be no significant impacts to air quality as a result of the Proposed Action and a conformity analysis is not required.

Global Climate Change

Short-term impacts will consist of Carbon dioxide (CO^2) emissions during construction. Estimated CO^2 emissions for the Proposed Action are 363.41 metric tons which are well below the Environmental Protection Agency's (EPA) 25,000 metric tons per year threshold for annually reporting greenhouse gas (GHG) emissions. Accordingly, the Proposed Action will result in below *de minimis* impacts to global climate change.

Cumulative Impacts

Cumulative impacts result from incremental impacts of a Proposed Action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. To determine whether cumulatively significant impacts are anticipated from the Proposed Action, the incremental effect of the Proposed Action was examined together with impacts from past, present, and reasonably foreseeable future actions in the same geographic area.

There are several other projects currently being worked on or proposed for the Lake Cachuma Campground. These include:

- The Mohawk Restroom Remodel Project which includes the remodeling and expansion of the existing Mohawk restroom in order to be compliant with the Americans with Disabilities Act (ADA). Parks applied to Reclamation for funding of these projects. Environmental analysis for the project was completed on February 25, 2010 (CEC-09-176) which found the project to have no significant impacts on the environment.
- Live Oak Restrooms Project which includes the construction of a new ADA-compliant restroom to replace existing showers and portable toilets. Leach fields for the project have already been constructed.
- A new boat ramp extension project.
- Miscellaneous ADA upgrade projects for the docks and fishing piers.
- Repavement projects for deteriorating roads within the recreation area.

An additional project in the area that will connect with Lake Cachuma includes the South Coast Conduit /Upper Reach Reliability Project proposed by Reclamation and the Cachuma Operations and Maintenance Board. The purpose of this project is to increase the operational flexibility, reliability, and the conveyance capacity of the South Coast Conduit between the South Portal of the Tecolote Tunnel and the Corona Del Mar Water Treatment Plant in order to accommodate peak demand levels and to allow maintenance of the pipeline.

The Proposed Action will not impact the implementation of these projects. While the emissions of one single project will not cause global climate change, GHG emissions from multiple projects could result in an impact. It is unlikely that all proposed projects within the area will be done at the same time. The demolition of the existing treatment facility, construction of a new Water Treatment Facility, and addition of a new water tank could contribute to short-term global climate change impacts due to emissions of CO_2 during construction. However, the estimated CO_2 emissions from the Proposed Action are well below the EPA's 25,000 metric tons per year threshold for reporting GHG emissions. Construction emissions are also well below the *de minimis* thresholds established by the Santa Barbara County Air Pollution Control District. As a result, the Proposed Action is not expected to contribute to cumulative significant impacts to global climate change or air quality.

The small amount of water required for fire suppression will not impact water deliveries for water rights, fish, or Central Valley Project contractors. Water taken out of the lake for use by the campground will continue as it has in the past; only at the new Water Treatment Facility instead of the old one. Additional water from the lake will be stored within the new water tank for future fire suppression use. Subsequent refilling of the tank will be infrequent. Therefore, the Proposed Action is not expected to have cumulative significant impacts to water resources.

Since there are no impacts to biological resources, recreation, land use, cultural resources, Indian Trust Assets, and Environmental Justice from the Proposed Action when examined with other past, present, and future project impacts there will be no contribution to cumulative impacts on these resources areas. Slight beneficial impacts to socioeconomics from the increase in fire suppression capability due to the added infrastructure are within historical variations and will not contribute to cumulative impacts. Overall there will be no significant cumulative impacts caused by the Proposed Action.

RECLAMATION

Managing Water in the West

Final Environmental Assessment

Santa Barbara County Parks Water System Upgrades at Lake Cachuma Campground

EA-09-173

U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
South-Central California Area Office
Fresno, California

June 2010

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Table of Contents

List of Tables and Figures

Appendices

Appendix A Proposed Action Designs
Appendix B Tree Protection and Replacement Program
Appendix C Environmental Documents

List of Acronyms and Abbreviations

ADA	American with Disabilities Act
Agency	Santa Barbara County Water Agency
APE	Area of Potential Effect
ARRA	American Recovery and Reinvestment Act of 2009
CAA	Clean Air Act
CFR	Code of Federal Regulations
Challenge Grant	Water Marketing and Efficiency Challenge grant program
COMB	Cachuma Operation and Maintenance Board
County	Santa Barbara County
CO_2	Carbon dioxide
CWA	Clean Water Act
EA	Environmental Assessment
EPA	Environmental Protection Agency
FWCA	Fish and Wildlife Coordination Act
ESA	Endangered Species Act
GHG	greenhouse gases
ITA	Indian Trust Asset
MBTA	Migratory Bird Treaty Act
mg/m^3	Milligram per cubic meter
M&I	Municipal and Irrigation
National Register	National Register of Historic Places
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
Parks	County of Santa Barbara Parks Department
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter
PM_{10}	Particulate matter less than 10 microns in diameter
PPM	Parts per million
Project	Water Systems Upgrades Project at Lake Cachuma
Reclamation	Bureau of Reclamation
RV	Recreation Vehicle
SBCAPCD	Santa Barbara County Air Pollution Control District
SCCAB	South Central Coast Air Basin
SIP	State Implementation Plan
$\mu g/m^3$	Microgram per cubic meter

Section 1 Purpose and Need for Action

1.1 Background

The American Recovery and Reinvestment Act of 2009 (ARRA) is an economic stimulus package, worth up to $787 billion, which was signed into law on February 17, 2009 for the purpose of stimulating the United States economy during a significant economic downturn. The Department of the Interior has been tasked with managing $3 billion in investments as part of ARRA in order to jumpstart the economy, create or save jobs, and address long-neglected challenges. Of the $3 billion, $1 billion will be invested in water infrastructure across the United States by the Bureau of Reclamation (Reclamation). Out of the $1 billion, $260 million will go to projects in California that will expand water supplies, repair aging water infrastructure, and mitigate the effects of a devastating drought the state is currently experiencing.

Lake Cachuma Campground is located along Highway 154, between the City of Santa Barbara and the Santa Ynez Valley, in central Santa Barbara County within the un-sectioned portion of Township 6 North, Range 29 West, Mount Diablo Base and Meridian (Figure 1-1). The County of Santa Barbara Parks Department (Parks), under an operating agreement with Reclamation, administers the campground as part of the Cachuma Lake Recreation Area located on the Santa Ynez River approximately 25 miles northwest of Santa Barbara, California (Figure 1-2).

New fire codes and standards have been developed by the Santa Barbara County Fire Chief which requires additional water supply availability for fire suppression and health and safety needs than what is currently available at the campground. On January 21, 2010, the County of Santa Barbara (County) signed an Initial Study and Mitigated Negative Declaration in accordance with the California Environmental Quality Act for the Water Systems Upgrades Project at Lake Cachuma (Project) which is hereby incorporated by reference.

Subsequently, Parks applied for ARRA funds through their operating agreement for their Project which involves the relocation and replacement of aging infrastructure of the existing Water Treatment Plant and the addition of a second water storage reservoir with associated appurtenances and pipelines.

1.2 Purpose and Need

The purpose of the Proposed Action is to relocate the existing Water Treatment Facility and associated appurtenances in order to replace aging infrastructure. The Proposed Action would also upgrade the Campground's existing fire suppression system in order to meet new fire codes and standards developed by the County Fire Chief.

1.3 Scope

This Environmental Assessment (EA) has been prepared to examine the potential for impacts on environmental resources as a result of funding the construction and operation of the facilities identified as the Proposed Action including any associated mitigation measures described in Section 2.2.3, which include the relocation of a Water Treatment Facility and construction of an additional water tank as well as associated appurtenances and pipelines. It has also been prepared to examine the impacts of the No Action Alternative.

1.4 Potential Issues

This EA will analyze the affected environment of the Proposed Action and No Action Alternative in order to determine the potential impacts and cumulative effects to the following resources:

- Water Resources
- Recreation
- Land Use
- Biological Resources
- Cultural Resources
- Indian Trusts Assets
- Environmental Justice
- Socioeconomic Resources
- Air Quality
- Global Climate Change

Figure 1-1 Lake Cachuma Campground (view looking north)

1.5 Updates to the Final EA

At the time the draft EA and Finding of No Significant Impact (FONSI) were posted for public comment it was thought that the ARRA funding was to be provided through Reclamation's Water Marketing and Efficiency Challenge grant program. However, funding for Park's Project is actually through their operating agreement with Reclamation. Although the mechanism of funding is different, the Proposed Action is still the awarding of ARRA funds to Parks which does not change the analysis conducted for EA-09-173. Changes have been made to the Final EA and FONSI in order to update the funding mechanism. No other changes have been necessary.

1.6 Public Comment Period

The draft EA and draft FONSI was posted for a 29 day public comment period between May 25, 2010 and June 18, 2010. Reclamation received no comment letters.

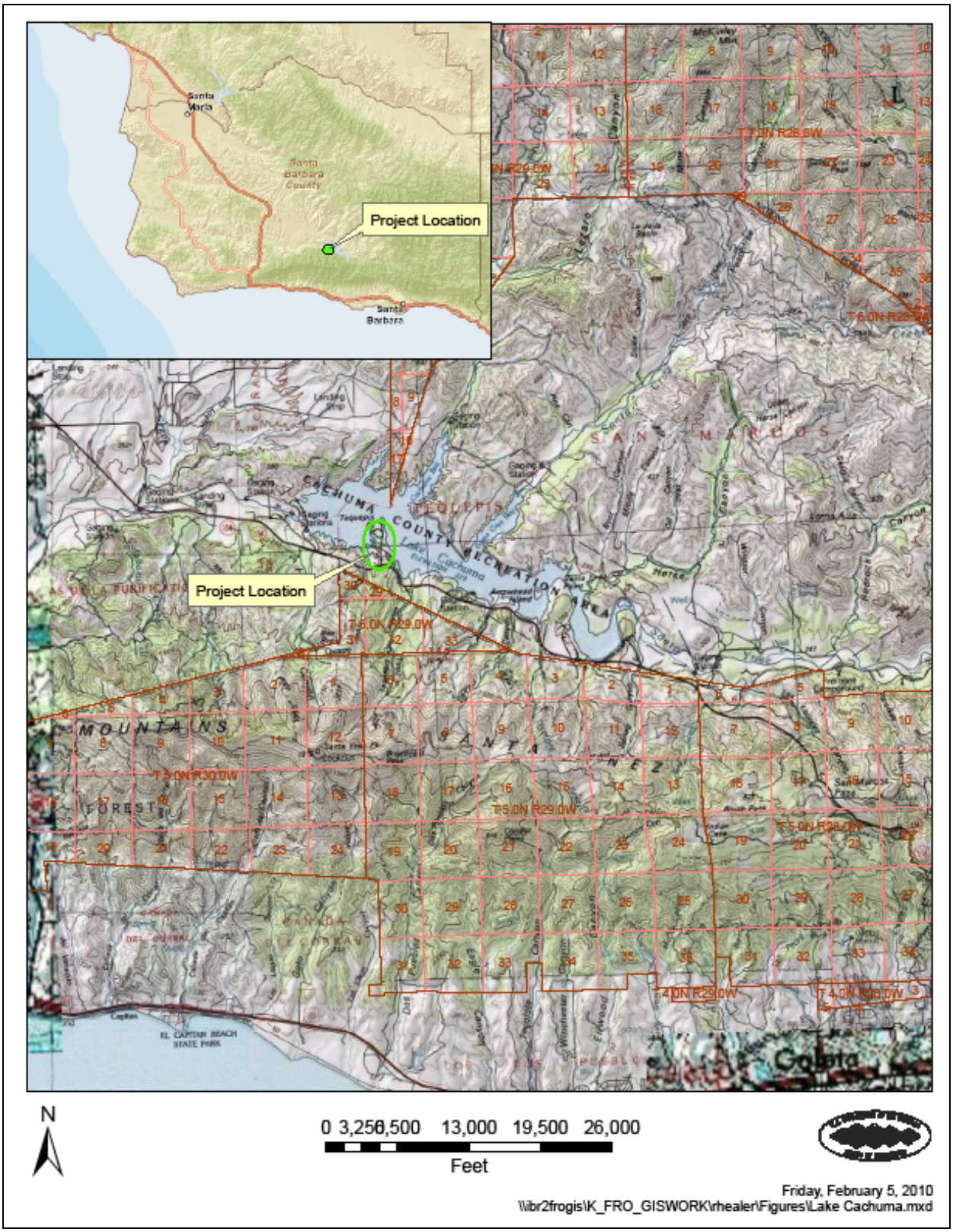

Figure 1-2 Lake Cachuma Proposed Action Location

Section 2 Alternatives Including the Proposed Action

This EA considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

Absent of federal funding assistance, construction of the Project would, at a minimum, be delayed. It is Park's intent to eventually construct and operate the Project; however, the timing for this is speculative. Additionally, there is always the chance that the Project would never be built. Consequently, the No Action Alternative could have two possible scenarios: A) no change from existing conditions as the project would not be built; or B) no change from existing conditions for an unknown period of time, after which the Project would be built as described in Section 2.2 below and the impacts analyzed in Section 3 of this EA would be realized. Any other subsequent actions caused by scenario B of the No Action Alternative not already covered under Section 2.2 of this EA is speculative at best, is outside the scope of this EA, and may require additional environmental analysis. As a result, scenario A of the No Action Alternative will be analyzed from this point forward in order to reduce repeating information since scenario B mirrors the Proposed Action (but at a later date).

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not award ARRA funds through Parks operating agreement for their Project. Without construction of the Project, the County would continue to serve guests with the existing infrastructure and facilities; however, the existing Water Treatment Facility would continue to not have sufficient water storage capacity for fire suppression and other health and safety needs.

2.2 Proposed Action

Under the Proposed Action, Reclamation would award ARRA funds through their operating agreement with Parks for their Project. The Project consists of relocating the existing Water Treatment Facility, adding a secondary Water Storage Tank, as well as replacing the aging appurtenances and pipelines that connect the fire suppression system to the Water Treatment Facility (see Figure 2-1 and Appendix A). No work would be done within Lake Cachuma itself.

Construction activities would take place on portions of Assessor's Parcel Numbers 145-160-072 and 145-160-075, commonly known as the Lake Cachuma Campground located at 2265 Highway 154 in the Santa Ynez Valley. Construction activities would be accomplished with large earthmoving equipment appropriate for this type of work, such as: graders, scrapers, loaders, excavators, backhoes, water trucks, hauling trucks, dump trucks, concrete trucks, and pumper trucks. For specific construction designs please see Appendix A.

The construction window would begin as soon as National Environmental Policy Act compliance is completed and funding becomes available and would take approximately one year to complete.

Figure 2-1 Proposed Action Locations

2.2.1 Water Treatment Facility Modifications

Modifications to the Water Treatment Facility would include the demolition and removal of two existing buildings (approximately 200 square feet and 300 square feet, respectively) as well as associated infrastructure, including: two 10,000 gallon water tanks, generator, and lift station (see Figure 2-2, existing site circled in red). Demolition would also include the removal of the existing concrete foundation and surrounding pavement. All materials would be removed from site for disposal. Parks would re-vegetate the demolished site with native trees and shrubs.

A new 5,300 square foot area would be graded and paved with concrete for the new Water Treatment Facility foundation (see Figure 2-2, new site circled in green). The maximum disturbed area would be approximately 6,500 square feet (see Appendix A for project designs). Approximately 150 cubic yards of cut would be removed from the site and used with an additional 200 cubic yards of fill to grade the new foundation and widen the existing paved parking area to accommodate the new facilities. The foundation would be placed adjacent to an existing paved road within the Lake Cachuma Campground (see Figure 2-2).

A new 120-foot long, 45-foot wide, up to 10-feet tall building would be constructed on the new foundation to house the new Water Treatment Facility. The new facility would consist of two 10,000 gallon water tanks, generator, and lift facility. The new facility would tie into the existing force main that delivers fresh water to the reservoir site for fire suppression, thereby, eliminating the need to trench and install a new force main. A pad-mounted transformer and an approximately 500-foot long conduit would be installed between the new facility and the existing Intake Pump Station. A new 50-foot long propane gas line and 500-foot long wastewater pipeline would also be installed. Excavation of the pipelines and conduit would be approximately five feet deep and would be within the 6,500 square foot disturbed area (see Appendix A).

Figure 2-2 Location of new Water Treatment Facility circled in green (note existing facility to be removed in uppermost corner of figure, circled in red)

2.2.2 Water Storage Tank Construction Activities at the Reservoir Site

A new 65-foot diameter, 15-foot tall, 200,000 gallon water storage tank and associated appurtenances would be installed on a new concrete pad adjacent to the existing water tank and existing paved road (Figure 2-3). A new concrete foundation would be graded. Grading would be balanced on-site with approximately 3,500 cubic yards of cut and 3,500 cubic yards of fill in order to create the new concrete foundation. A 100 foot long, 12-inch diameter, storm drain would be installed north of the new reservoir tank (see Appendix A). Trenching would be approximately 5 feet deep and 5 feet wide. A 5-foot wide by 15 feet long rip rap energy dissipater would be installed at the outlet of the storm drain. Rip rap would range from 8 inches to 16 inches in diameter and be at least two layers thick.

The maximum disturbed area would be approximately 20,000 square feet (see Appendix A for specific project details). Grading would disturb less than one acre but would require the removal of six native Oak trees.

A new 8-inch diameter water line would be placed along an existing dirt road and would connect the new tank to the existing distribution line.

Figure 2-3 Existing water reservoir and location of new water tank (new location circled in green)

2.2.3 Water Distribution Improvements

Water distribution improvements would consist of adding 13,800 linear feet of new underground pipeline with associated valves and fittings along existing road alignments within the park (see Appendix A). The new pipelines would connect with the new Water Treatment Plant, the new and existing water tanks, and the existing water distribution pipelines. Pipeline trenching would generally be 18-inches wide and up to two feet deep. Construction would also entail repaving approximately 48,200 square feet of the existing roadways.

As part of the fire suppression improvements, 23 new fire hydrants would be installed along the new and existing water distribution pipelines. In order to protect the fire hydrants and other vulnerable infrastructure, 87 bollards would be placed throughout the system where needed (see Appendix A). Bollards would be installed in concrete footings within 2-feet deep, 12-inch diameter holes.

2.2.4 Environmental Commitments

Parks would implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action (see Table 2-1). Environmental consequences for resource areas assume the measures specified would be fully implemented. Parks would supply Reclamation with a copy of their revegetation/restoration plan prior to finalization of the EA and signing of the Finding of No Significant Impact.

Table 2-1 Environmental Protection Measures

Resource	Protection Measure
Air Quality	If the construction site is graded and left undeveloped for over four weeks, the applicant shall employ the following methods immediately to inhibit dust generation: • seeding and watering to re-vegetate graded areas; and/or • spreading of soil binders; and/or any other methods deemed appropriate by Parks.
Air Quality	Dust generated by the development activities shall be kept to a minimum with a goal of retaining dust on the site. Follow the dust control measures listed below: • During clearing, grading, earth moving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems are to be used to prevent dust from leaving the site and to create a crust after each day's activities cease. • During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the later morning and after work is completed for the day and whenever wind exceeds 15 miles per hour. Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation.
Air Quality	The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering as necessary to prevent transport of dust off-site. Their duties shall include holiday and weekend periods when work may not be in progress.
Biological Resources	In order to protect existing oak trees and minimize adverse effects of grading and construction onsite, a Tree Protection and Replacement Plan (see Appendix B) shall be implemented. No ground disturbance including grading or trenching shall occur within six feet of the dripline (dripline buffer area) of any oak tree unless specifically authorized on approved plans. Any protected oaks trees which are removed, relocated and/or damaged shall be replaced on a 10:1 basis with 1 gallon size saplings grown from seed obtained from the same watershed as the project site.
Biological Resources	A re-vegetation or restoration plan shall be implemented. The plan shall utilize native, fast growing, vegetation that would quickly cover the outlet structure to the storm drain, and thrive in a rocky environment for erosion control.
Biological Resources	Biological surveys shall be done by Reclamation-approved biologists no later than two weeks prior to construction activities during the bird nesting season (February 15 through September 15). If nesting birds are observed within 200 feet of construction/grading areas, all construction or grading activities shall be postponed or halted at the discretion of the biologist until the nest is vacated and the juveniles have fledged.
Water Resources	Outlet structures for energy dissipation shall minimize disturbance to the natural drainage and avoid the use of unnatural materials, such as concrete, grouted rock, and asphalt rubble. Where hard bank materials must be used, natural rock, gabions, crib wall or other more natural means of energy dissipation shall be preferred. Rock

	grouting shall only be used if no other feasible alternative is available as determined by Parks.
Water Resources	Best available erosion and sediment control measures shall be implemented during grading and construction. Best available erosion and sediment control measures may include but are not limited to use of sediment basins, gravel bags, silt fences, geo-bags or gravel and geotextile fabric berms, erosion control blankets, coir rolls, jute net, and straw bales. Storm drain inlets shall be protected from sediment-laden waters by use of inlet protection devices such as gravel bag barriers, filter fabric fences, block and gravel filters, and excavated inlet sediment traps. Sediment control measures shall be maintained for the duration of the grading period and until graded areas have been stabilized by structures, long-term erosion control measures or landscaping. Construction entrances and exits shall be stabilized using gravel beds, rumble plates, or other measures to prevent sediment from being tracked onto adjacent roadways. Any sediment or other materials tracked off site shall be removed the same day as they are tracked using dry cleaning methods.
Cultural Resources	Monitoring by Archaeologist and Native American Cultural Monitors during construction activities.
Cultural Resources	Demolition of the existing Water Treatment Facility cannot take place until Reclamation completes its evaluation of that facility for eligibility on the National Register of Historic Places (National Register).

Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

3.1 Water Resources

3.1.1 Affected Environment

Construction of the Cachuma Project, which was authorized in 1948, began in 1950 and was completed in 1956. Bradbury Dam, located on the Santa Ynez River approximately 25 miles northwest of Santa Barbara, stores floodwaters of the nearby Santa Ynez River for the historically water deficient communities of the South Coast area, including the city of Santa Barbara, its smaller, urban neighbors, and 38,000 acres of outlying agricultural lands. Lake Cachuma, with a capacity of 205,000 acre-feet, covers 3,250 acres when full and has a 42-mile shoreline (Reclamation 2010). Water is conveyed to the Santa Barbara County Water Agency's (Agency) Member Units via the Tecolote Tunnel, South Coast Conduit, and the Santa Ynez Conduit. The Member Units include: the City of Santa Barbara, Goleta Water District, Montecito Water District, Carpinteria Valley Water District, and the Santa Ynez River Water Conservation District - Improvement District #1.

In September 1949, Reclamation entered into a 40 year long-term contract (Contract number I75r-1802r) with the Agency on behalf of its Member Units for the purpose of providing irrigation and municipal and industrial (M&I) water supplies to the Member Units. This contact became effective upon initial deliveries of Cachuma Project water in 1955

(Reclamation *et al.* 1995). Over this 40 year timeline, the Cachuma Project has been the principal water supply for the communities of the Santa Ynez Valley and South Coast delivering approximately 20,000 acre-feet of Cachuma Project water annually. This was increased to 27,000 acre-feet per year after the drought of 1987-91 (Reclamation 2004). In 1996, Reclamation renewed this contract for an additional 25 years.

Water releases are made from Cachuma Lake pursuant to Reclamation's water rights permits from the State Water Board, as described in Section 3.3 of the 2004 Final Environmental Impact Statement/Environmental Impact Report for the *Lower Santa Ynez River Fish Management Plan and Cachuma Project Biological Opinion for Southern Steelhead Trout* prepared by Reclamation and the Cachuma Operation and Maintenance Board (COMB). These releases are used to replenish the groundwater basins for downstream water rights holders (Reclamation and COMB 2004). Additionally, since 2000, Reclamation has modified Cachuma Project operations for releases to protect and enhance habitat for the endangered southern steelhead along the Santa Ynez River below Bradbury Dam and to comply with the National Marine Fisheries Service (NMFS) 2000 Biological Opinion.

Lake Cachuma campground draws water from the lake and processes the water at the existing Water Treatment Facility. Once processed to meet health and safety criteria, the water is pumped to the existing water storage reservoir where it gravity-flows to fixtures within the campground.

3.1.2 Environmental Consequences

3.1.2.1 No Action

Under the No Action Alternative, water deliveries would remain the same as existing deliveries and would therefore not be impacted. The existing infrastructure would continue to supply the water needs of the campground; however, the facilities would not meet the County Fire Chief's new codes and standards for fire suppression water availability and may not have enough capacity to effectively fight a large forest fire.

3.1.2.2 Proposed Action

Under the Proposed Action, an additional 200,000 gallons would be extracted from Lake Cachuma for storage in the new water tank. This additional storage would be used to meet the County Fire Chief's new codes and standards for fire suppression availability. The water used for fire suppression would come from the Agency's contracted water allocation and would not impact water right or fish releases. There would be no impacts to water deliveries as the small amount of water would be less than one acre and would come from an existing contract. There would be no impacts to federal facilities. In addition, Parks would implement best management practices as well as environmental commitments listed under Section 2.2.4 in order to ensure that there would be no water quality impacts, erosion, or sedimentation as a result of the Proposed Action. Therefore, there would be no adverse impact to water resources as a result of the Proposed Action.

3.2 Recreation

3.2.1 Affected Environment

Lake Cachuma Campground is located off Highway 154 on the southern side of Lake Cachuma. The campground provides tent, trailer, cabin, and recreation vehicle (RV) camping at more than 400 campsites. Approximately one-fourth of the campsites have full electrical, water and sewer hookups. Thirty campsites, with electrical and water hookups, can accommodate any size RV. Each campsite contains a picnic table and fire ring, with showers, restrooms and water nearby. A fully-stocked general store, coin-operated laundry, gas station, and RV dump station is also available.

3.2.2 Environmental Consequences

3.2.2.1 No Action

Under the No Action Alternative, the Lake Cachuma Campground would still provide camping opportunities for visitors. There would be no impacts to recreation as conditions would remain the same as existing conditions.

3.2.2.2 Proposed Action

The Proposed Action would represent a minor loss of recreational space and impacts to natural open space and wildlife habitat; however, it would not change current recreational uses within the campground. Under the Proposed Action, the campground water supply system would be upgraded to better serve existing recreational uses. There would be no temporary impacts to recreational use of the campground as no roads would be closed down due to construction of the facilities. Consequently, the Proposed Action would have no adverse impacts to recreational use.

3.3 Land Use

3.3.1 Affected Environment

The proposed location for the new Water Treatment Facility would utilize a paved parking area along side of an internal campground access road. A portion of the new facility would extend 50 to 60 feet into a grassy field that is currently irrigated lawn used by campers in the surrounding campsites.

The proposed location of the new water tank, on the south side of Highway 154, is not accessible to visitors and is not an active use area. This is an area of natural open space that is used primarily as wildlife habitat.

3.3.2 Environmental Consequences

3.3.2.1 No Action

Under the No Action Alternative, there would be no impacts to land use as conditions would remain the same as existing conditions.

3.3.2.2 Proposed Action

The Proposed Action would represent a minor loss of recreational space and impacts to natural open space and wildlife habitat; however, it would not change current land uses within

the campground. Under the Proposed Action, the campground water supply system would be upgraded to better serve existing land uses. Consequently, the Proposed Action would maintain current land uses and would have no adverse impacts to land use.

3.4 Biological Resources

3.4.1 Affected Environment

Santa Barbara County has a wide diversity of habitat types, including chaparral, oak woodlands, wetlands and beach dunes. A site visit was conducted on January 5, 2010 for the Proposed Action.

The area around Lake Cachuma is used by a wide number of species, some listed under the state and/or federal Endangered Species Acts, some protected by the Migratory Bird Treaty Act (MBTA) and/or the Bald & Golden Eagle Protection Act, and many species of plant and wildlife (including fish) that have no specific regulatory protection.

Raptors, including bald eagles, osprey, and red-tailed hawks use the area around the lake for roosting and perching, and the former two species take fish from the lake and the Santa Ynez River upstream and downstream of the lake. Turkey vultures routinely perch on the dam when in the area, and a great blue heron rookery has existed downstream of the dam for a number of years. Various species of waterfowl (*e.g.*, scaup, bufflehead, and cormorants) use the lake and the Stilling Basin (the area of water just below the dam). Migratory and resident smaller birds, including blue jays, crows, hummingbirds, kingfisher, and sparrows (a far from exclusive list) are common in the area of the lake, including in the project area. A small population of willow flycatchers nests downstream of the dam near Buellton. Pelicans, gulls, and plovers, among other species, are known at the mouth of the Santa Ynez River to the Pacific Ocean.

An increasing population of steelhead trout uses the mainstem of the Santa Ynez River and the tributaries below the dam for breeding, rearing, and migration, and many of the waterways downstream of the dam have been formally designated as critical habitat for the species by the National Marine Fisheries Service [NMFS] (NMFS 2005). Resident rainbow trout (the same species as steelhead, with a different life history) are known above and below the dam in the mainstem and the tributaries. Reclamation and the Cachuma Conservation Release Board have been implementing a Biological Opinion issued by NMFS for the operations and maintenance of the Cachuma Project since 2000 (NMFS 2000). Other fish species, including largemouth and smallmouth bass, channel and bullhead catfish, crappie, green and redear sunfish, sculpin, threespine stickleback, mosquito fish, arroyo chub, fathead minnow, and bluegill have been observed within the Santa Ynez River system.

Reptiles and amphibians are, depending on the species, common to rare in Santa Barbara County and in the vicinity of Lake Cachuma. Pacific tree frogs, California red-legged frogs, arroyo toads, western rattlesnakes, California kingsnakes, western pond turtles, Coast horned lizards, and fence lizards have all been found in the area.

Various large and small mammal species are also known in the area. Mountain lions and coyotes have been seen near Lake Cachuma, beavers are widespread in the Santa Ynez drainage,

and small burrowing mammals (*e.g.*, gophers, voles, and ground squirrels) are extensive throughout the county.

Oak trees, while not common, are in the area of the lake, and have been planted over the last five years as a result of commitments in the Fish Management Plan Environmental Impact Report/Environmental Impact Statement (EIR/EIS) (Reclamation & COMB 2004) in the vicinity of the lake. Riparian vegetation is extensive upstream and downstream of the lake. Grasses, shrubs, and trees of varying species (some native, some non-native) are prevalent in the area of Lake Cachuma.

The project area contains oak trees and grasses surrounding the roads and other facilities associated with the County Park. The vegetation provides feeding and/or roosting for some of the birds local to the area. Small amounts of scavenging by local species on carrion and on refuse at the park facilities occurs year round.

The Biological Opinion for operations and maintenance of the Cachuma Project includes flow targets at specified points below the dam, depending on various criteria. Water to meet those targets is released from Lake Cachuma either through the Bradbury Dam outlet works, through the Hilton Creek Supplemental Watering System, or both, and supports migration and rearing of steelhead in the mainstem of the Santa Ynez River.

3.4.2 Environmental Consequences

3.4.2.1 No Action

There would be no impacts to biological resources are conditions would remain the same as existing conditions.

3.4.2.2 Proposed Action

Effects from the Proposed Action would include temporary and permanent effects to the landscape and vegetation. The new Water Treatment facility would be in the previously developed campground area, which is currently a combination of paved parking area and irrigated non-native lawn. No significant vegetation would be lost for the new Water Treatment facility, as the Proposed Action would construct the new facility on the non-native grass area and the removed facility would no longer exist. There is a native oak nearby that could be affected by the construction of the new facility, primarily by damage from the construction equipment. The environmental commitments, however, include protection measures that would prevent (avoid) those effects by maintaining a buffer around the tree.

The new Water Storage Tank would result in the loss of six live oak trees and would result in the degradation of approximately 0.5 acres, but not more than one acre, of oak woodland habitat. There are also nearby oaks not planned for removal that warrant protection during construction activities, and which would be protected by the same environmental commitments described earlier. Mitigation for the removed oak trees has been identified as replacement planting, at a ratio of 10:1 (planted oaks:removed oaks), which would offset the effects of the lost trees. See Appendix B for the locations identified for the replaced trees.

Use of water from Lake Cachuma to supply the Water Storage Tank would require approximately 200,000 gallons. One acre-foot is approximately 325,000 gallons. This water,

while a relatively minimal amount in comparison to the 205,000 acre-foot capacity of the lake (0.0003 percent), would not reduce the amount of water dedicated and available to implement the Biological Opinion, and thus would not affect the listed steelhead trout. The small amount of water would not noticeably reduce the amount of water in the lake that supports the fish species inhabiting the lake, nor would it noticeably reduce the amount of water available and used by species downstream of the dam to the confluence with the Pacific Ocean.

Effects to local wildlife, primarily bird species, resulting from the construction of the Proposed Action, would be the result of disturbance of roosting and foraging habitat, and potentially of nesting habitat. The environmental commitments included as part of the Proposed Action, specifically, the avoidance of work during the nesting period if any nests are identified, would avoid effects to nesting birds. There are also a large number of other potential roosting and foraging sites within the immediate proximity of the project area that would support any temporarily displaced birds. None of the bird species that are known in the area that might be using the County park as roosting or foraging habitat have home range sizes large enough that inter- or intraspecific competition would preclude use of those proximate sites.

There are no federally listed species or federally listed critical habitat located within the Proposed Action area; therefore, there would be No Effect to species listed under the federal Endangered Species Act (ESA), or to critical habitats designated under the ESA.

3.5 Cultural Resources

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register. Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 Code of Federal Regulations (CFR) Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

3.5.1 Affected Environment

Archaeologists have studied Chumash prehistory for decades. Most of that research has concentrated on the Santa Barbara Channel region, where the Barbareño Chumash developed a highly complex social system. While it is clear that many differences distinguish Chumash groups living north and south of Point Conception, there are some broad patterns of cultural change which apply to both regions.

The Early Holocene (circa 8000–6000 B.C.) has been described as a period of low population density, simple technology, and egalitarian social organization (Erlandson 1994). During this time people appear to have subsisted largely on plants, shellfish, and some vertebrate species. The subsequent period (6000–1400 B.C.), referred to as the Early Period by King (1990), differs from the Early Holocene—technological changes, particularly the addition of *manos* and *mutates* (handstones and milling slabs) to the tool kit, probably indicate a greater reliance on hard seeds from the chaparral plant community. Toward the end of the Early Period, mortars and pestles were added to the tool inventory, suggesting a systematic exploitation of acorns (Glassow et al. 1988).

Technological innovations during the Middle Period (1400 B.C.–A.D. 1150) included development of the *tomol*, or plank canoe, and most of the sophisticated fishing technology used until historic times. These served to alter subsistence and social organization. The *tomol* was utilized by the Chumash south of Point Conception, where ocean conditions were more navigable, and allowed a greater exploitation of marine resources, particularly fish, for food. There is some evidence for increasing population size during the Middle and Late periods, but no rigorous estimates of population size or density have been established.

Social complexity became more apparent during the Middle to Late Period transition (A.D. 1150–1300), when most archaeologists believe craft specialization and social ranking developed (Arnold 1992a). These changes, however, are again more noticeable south of Point Conception and may have been due, in part, to environmental changes that occurred at that time. By the Late (A.D. 1300-1782), Chumash culture, which had evolved a complex religious, social, and economic system, was probably very similar to what the Spanish observed when they arrived. There are few records of Spanish encounters with the Chumash north of Point Conception (Glassow 1990:2–5), although it appears that the absence of the *tomol* and a lower population density contributed to a different social and political organization from their neighbors to the south.

The prehistory of the project area, and the Santa Ynez Valley in general, is as yet poorly understood. There is tentative evidence for Early Period occupation at CA-SBA-2203 and -3387 in the vicinity of Lake Cachuma (Mikkelsen and Costello 1994; McKim et al. 1996) and early sites have been found in the lower Santa Ynez River valley (Woodman et al. 1991). Surveys conducted to date indicate that the study area was sparsely populated during the Middle and Late periods, and that the sites found here tend to be short-term intermittently occupied camps. More permanent settlements were probably located along the Santa Ynez River.

Santa Barbara County lies in the ethnographic territory of the Chumash, one of the most populous and socially complex native groups in California. The Chumash homeland

encompasses the coastal and inland areas from present-day San Luis Obispo 250 miles south to Malibu Canyon and includes the Santa Barbara Channel Islands (Grant 1978a:505). The Chumash spoke at least six related languages, each corresponding to a regionally based group or tribe. The Ynezeño Chumash occupied the Santa Ynez River watershed from the mouth of Zaca Creek eastward (Glassow 1979:155). Numerous ethnographic villages have been identified within the Ynezeño territory, although very few actually have been linked to archaeological sites (Glassow 1979; King 1975). The village sites within the Lake Cachuma area include *Elijman* and *Teqepsh,* which lies less than 0.25 mile from the project area. In 1877, early California archaeologist Reverend Stephen Bowers excavated portions of *Teqepsh*, currently designated as CA-SBA-477 (Benson 1997). Bowers found a large D-shaped ceremonial structure as well as three burials marked by large upright stone slabs buried as much as 5 feet below the surface.

Point Conception marked the boundary between the northern and southern subsistence strategies of the Chumash. To the southwest, more favorable ocean conditions encouraged an economy focused on ocean fish, mollusks, and other maritime resources. For groups living north of Point Conception where the coast faces west and receives the full force of westerly winds, more limited use of ocean-going vessels promoted a diet more focused on terrestrial resources, particularly deer and acorns. As a result, most of the larger villages were established along the coast south of Point Conception, while northern and interior regions were more sparsely settled with smaller habitation sites (Glassow 1979:155). Villages located inland and north of Point Conception numbered approximately 100 individuals, in contrast to the 500–1,000 individuals that inhabited settlements along the Santa Barbara Channel (Glassow 1990:2–5).

Exchange within Chumash society was based on the differences in resource availability and abundance among the geographic regions of each tribe. There is evidence that trade resulted in the movement of marine resources to the interior (Colten 1994; Macko 1983), while goods such as acorns and deer flowed from inland groups to coastal and island tribes (Gibson 1991:43). As early as 1,000 years ago, the Chumash economy had developed a shell bead monetary system and evolved craft specialization for products as diverse as beads, headdresses, tobacco, nets, baskets, and canoes (Gibson 1991:43). The exchange network extended outside Chumash territory; traders bartered beads, fish, and other local goods for steatite from the neighboring Gabrielino Indians and obsidian from the eastern Sierra Nevada (Gibson 1991:44).

As with other inland groups, the Ynezeño appeared to have had lower population densities and greater seasonal mobility than coastal groups (Landberg 1965). Subsistence focused on acorns and stored food during the winter, and tubers, grass seeds, and bulbs during the spring. Fish provided a high-quality food source in late summer and early fall, while hunting was best in spring, summer, and fall (Landberg 1965:102–114). Triangular side-notched points or leafshaped points with rounded bases were fashioned typically from chert or occasionally from imported obsidian (Grant 1978b:515). Milling implements (e.g., mortars and pestles) were made from sandstone, and cooking vessels as well as artistic objects were produced from steatite because of its ability to retain heat and malleable quality. Asphaltum, obtained from channel dwelling tribes, served as a natural caulk to seal baskets and other containers.

Chumash villages were led by a chief or *wot* (Gibson 1991:48). Leadership was hereditary, although the legitimacy of the chief required approval of the members of the village. The influence of some chiefs extended over several villages, indicating a simple chiefdom level of social organization (Arnold 1992b; Johnson 1988). The chief was assisted in his duties by a ceremonial leader *(paxa),* who presided over rites and other religious events (Gibson 1991:57).

The first European contact with the Chumash occurred in 1542 during the voyage of Juan Cabrillo, who encountered members of the Ventureño Chumash near present-day Ventura (Grant 1978b:519). Several Spanish explorers followed over the next 130 years, including Gaspar de Portolá, whose party passed through Santa Barbara County on its way to locate and claim Monterey Bay for Spain. It was not until the founding of the Mission San Luis Obispo de Tolosa in 1772 that the Spaniards established a permanent presence in Chumash territory. Mission Santa Barbara followed in 1786, and Mission La Purísma Concepción was founded one year later. In 1798, Father Esteván Tapís and Captain Felipe de Goyocoechea passed along the Santa Ynez River (and probably near the project area) during their journey from Santa Barbara to locate a new mission site (Grant 1978b:518). In his account of the survey, the Franciscan priest recorded 14 villages in the river valley, including the settlement of *Alajuapu*, where Mission Santa Ynéz was eventually established in 1804.

The arrival of the Spanish and the establishment of local missions and a military outpost (*presidio*) in Santa Barbara greatly altered the way of life of the Chumash. The most devastating impact was the introduction of common Old World diseases. Indigenous populations had no resistance to these novel pathogens; as a result, natives died in epidemic proportions from sicknesses such as smallpox and measles. In addition, a concurrent change in the environment led to subsistence stress, which Larson et al. (1994) suggests forced the Chumash into the missions to minimize economic and social risk. In 1823, Mexico gained complete control of the northern Spanish colonies, but treatment of the Chumash remained largely the same. Dissatisfaction with Spanish rule and the succeeding Mexican regime festered and finally erupted in 1824 when 200 Chumash took over Mission La Purísima Concepción (Gibson 1991:76–78). Indians from local nearby missions joined the uprising, but a well-armed detachment of Mexican soldiers eventually quelled the rebellion. Despite promises of land and livestock that came with the secularization of the missions in 1833, most of the land granted to emancipated neophytes was lost or wrested away by nonindigenous individuals (González 1998).

From the mid-1830s into the 1840s, the Mexican authorities approved over 800 land grants to individuals with the intent to settle the predominantly undeveloped expanse of the California province (Monroy 1998:180). Lake Cachuma overlaps the territories of two such grants, Tequepis and Rancho San Marcos (Maki 2004). Although the soils and climate of the Santa Ynez Valley attracted grain farmers to the area and later supported olives, vineyards, and vegetable crops, the rugged terrain of the upper valley was suited primarily for stock raising (Storke 1891:108–109). During the 1880s, a trio of townships emerged west of the project area. Ballard, named for the manager of a stage station in the 1860s, was laid out by George W. Lewis in 1881. While Storke (1891:110) noted that the settlement's abundant wheat crops and large canal "promise a flourishing future" for the town, Ballard remained the quiet, agrarian community it is today. Santa Ynez was established in 1882, and by the early 1890s

the town included two hotels, multiple stores, several saloons, stables, a blacksmith shop, and numerous dwellings (Storke 1891:109). Despite the region's agricultural productivity, the relative inaccessibility of the valley and high freight costs prevented farmers from realizing the full demand for their crops prior to the mid-1880s (Storke 1891:109). That problem was alleviated, however, with the arrival of the Pacific Coast Railroad and the founding of Los Olivos in 1887 (Gidney et al. 1917:131).

The transportation link opened the door to the agricultural markets and ports of the north; in addition, the railroad resulted in an exponential increase in land value, as plots selling for $6–$15 per acre in the 1880s appreciated to $100 or more by the 1910s (Gidney et al. 1917:131). A new settlement joined the Santa Ynez Valley group of communities in 1911 when Solvang was established by Danish-American immigrants. The town is currently a favorite tourist destination with countless retail shops, but its initial economy centered on the production of beans, grains, and fruit (Gidney et al. 1917:135).

The Chumash have continued to maintain their presence in the area. Storke (1891:110) refers to the town's Zanja de Cota Indian Reservation and the "thirty or forty souls, remnants of the Santa Ynes Mission Indians," that reside there. In 1901, the U.S. government ceded 75 acres to the reservation, and by the latter half of the twentieth century, the number of residents had grown to 100 (Gibson 1991:89). Like other Native American groups, the Santa Ynez Reservation currently owns its own gaming operations, whose profits help provide housing, health care, and other benefits to tribal members.

While the city of Santa Barbara is separated from the Santa Ynez Valley by a substantial mountain range and a distance of over 20 miles, it has nevertheless influenced the valley's history and physiognomy. The city's residents have historically been reluctant to support policies and public works projects that would encourage unrestrained growth. By the 1940s, however, the inevitable rise in the population of the county's major urban centers coupled with the region's vulnerability to drought convinced even the staunchest antigrowth proponents that a proactive solution was necessary to address the need for a reliable water source. The result was the Cachuma Project, a storage and transport system designed to supply water for agriculture and residences in Santa Barbara and the surrounding communities of Goleta, Summerland, Montecito, and Carpinteria (Latousek 1995). Touted as the Reclamation's "first seacoast project" in 1949, the undertaking was a coordinated venture of the federal agency and Santa Barbara County, whose voters approved construction of the system by a 3 to 1 margin. Residents of the Santa Ynez Valley were assured that their water rights would not be compromised by the project. The centerpiece of the project is Lake Cachuma, a man-made reservoir created by the Bradbury Dam, which impounds the flow of the Santa Ynez River about 25 miles northwest of Santa Barbara; water from the reservoir is fed to the Santa Barbara area through the Tecolote Tunnel, the South Coast Conduit, smaller regulating reservoirs, and a network of pipelines. The Bradbury Dam, formerly the Cachuma Dam, was completed in 1953, but the entire system did not reach fruition until the mid-1950s. While the primary purpose of the Cachuma Project is water storage, Lake Cachuma has become a recreation site for fishing, boating, camping, and other activities.

3.5.2 Environmental Consequences

3.5.2.1 No Action

Under the No Action Alternative, effects to cultural resources would remain the same as current conditions.

3.5.2.2 Proposed Action

The Proposed Action would occur in an area where cultural resources, particularly those of an archaeological nature are present. Two cultural resource inventory efforts have identified that the Proposed Action would occur in an area of known cultural resources but would not adversely effect them pursuant to the regulations at 36 CFR Part 800.5(b). Reclamation has initiated consultation with the California State Historic Preservation Officer seeking their concurrence on this finding. Given the nature of the overall landform where the Proposed Action would occur, and the fact that there remains a high potential for cultural resources buried below the surface would be removed during project implementation, Reclamation is requiring both the use of Archaeological monitors and Native American Cultural Monitors during ground disturbing actions associated with the project. The costs for these shall be borne by the project proponent. All post review discoveries would be handled through the post review process in the Section 106 regulations located at 36 CFR Part 800.13. In the event that a finding of adverse effect is made during a post review discovery, Reclamation would resolve adverse effects following the resolution of adverse effect process located at 36 CFR Part 800.6. Utilizing this process, the Proposed Action would result in no adverse impacts to cultural resources.

3.6 Indian Trust Assets

Indian trust assets (ITA) are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, executive order, or act of Congress. The Secretary of the interior is the trustee for the United States on behalf of federally recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" means there is a property interest for which there is a legal remedy, such a compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease, or right to use something. ITA cannot be sold, leased or otherwise alienated without United States' approval. Trust assets may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITA may be located off trust land.

Reclamation shares the Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain ITA reserved by or granted to Indian tribes, or Indian individuals by treaty, statute, or Executive Order.

3.6.1 Affected Environment

The nearest ITA is a Public Domain Allotment approximately six miles southwest of the Proposed Action location.

3.6.2 Environmental Consequences

3.6.2.1 No Action
Under the No Action Alternative, conditions would remain the same as existing conditions; therefore, there would be no impacts to ITA.

3.6.2.2 Proposed Action
The Proposed Action has no potential to impact ITA as there are none in the action area.

3.7 Environmental Justice

Executive Order 12898 (February 11, 1994) mandates Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

3.7.1 Affected Environment
The County population increased by 1.5 percent between 2000 and 2008, less than the State of California population change of 8.5 percent (see Table 3-1). In 2008, the County's per capita income was higher than the State average and the percentage of people living in poverty was also slightly lower than the State's (U.S. Census Bureau 2008).

Table 3-1 Santa Barbara County Demographics

Place	Population	% Population change since 2000	% of Minority	Per capita income	% of Poverty
Santa Barbara County	405,396	1.5	48.2	23,059	12.7
California	36,756,666	8.5	47.7	22,711	13.3

Source: US Census Bureau 2008

3.7.2 Environmental Consequences

3.7.2.1 No Action
There would be no impacts to Environmental Justice as conditions would remain the same as existing conditions.

3.7.2.2 Proposed Action
The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations. Therefore, there would be no adverse impacts to Environmental Justice as a result of the Proposed Action.

3.8 Socioeconomic Resources

3.8.1 Affected Environment
Although the County's per capita income was slightly higher than the State average, its median household income is not (see Table 3-1 and 3-2). Major industries within the County include education and healthcare, professional services, arts and entertainment and retail trade (U.S. Census Bureau 2008).

3.8.2 Environmental Consequences

3.8.2.1 No Action
There would be no impact to socioeconomic resources as conditions would remain the same as existing conditions.

3.8.2.2 Proposed Action
The Proposed Action would have a slight beneficial impact as additional, but temporary, jobs are created during the construction period. The additional fire suppression infrastructure would provide increased fire suppression capabilities which could protect facilities within the campground. This could provide a potential beneficial impact to socioeconomic resources within the campground.

3.9 Air Quality

Section 176 (C) of the Clean Air Act [CAA] (42 USC 7506 (C)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal CAA (42 USC 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards and achieving expeditious attainment of those standards.

On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a nonattainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity.

3.9.1 Affected Environment
The Proposed Action lies within the South Central Coast Air Basin (SCCAB) which includes the Counties of San Luis Obispo, Santa Barbara, and Ventura, and is maintained by the Santa Barbara County Air Pollution Control District (SBCAPCD). Major sources of pollution in the South Central Coast include power plants, oil refineries, transportation, and agricultural operations (CARB 2010). SCCAB has reached attainment status for the seven monitored federal pollutants (see Table 3-3); however, the County is in nonattainment for the state standard for ozone and inhalable particulate matter less than 10 microns in diameter (PM_{10}) and is unclassified for the federal lead standard.

Table 3-2 Santa Barbara County Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone	8 Hour	0.070 ppm (137 µg/m^3)	**Nonattainment**	0.075 ppm	Attainment
	1 Hour	0.09 ppm (180 µg/m^3)	Attainment	revoked	--
Carbon monoxide	8 Hour	9.0 ppm (10 mg/m^3)	Attainment	9.0 ppm (10 mg/m^3)	Attainment
	1 Hour	20.0 ppm (23 mg/m^3)	Attainment	35.0 ppm (40 mg/m^3)	Attainment
Nitrogen dioxide	Annual arithmetic mean	0.030 ppm (56 µg/m^3)	Attainment	0.053 ppm (100 µg/m^3)	Attainment
	1 Hour	0.18 ppm (338 µg/m^3)	Attainment	--	--
Sulfur dioxide	Annual average	--	--	0.03 ppm (80 µg/m^3)	Attainment
	24 Hour	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/m^3)	Attainment
	1 Hour	0.25 ppm (655 µg/m^3)	Attainment	--	--
PM_{10}	Annual arithmetic mean	20 µg/m^3	**Nonattainment**	--	Attainment
	24 Hour	50 µg/m^3	**Nonattainment**	150 µg/m^3	Attainment
$PM_{2.5}$	Annual Arithmetic mean	12 µg/m^3	Unclassified	15 µg/m^3	Attainment
	24 Hour	--	--	35 µg/m^3	Attainment
Lead	30 day average	1.5 µg/m^3	Attainment	--	--
	Rolling-3 month average	--	--	0.15 µg/m^3	Unclassified

Source: CARB 2010; SBCAPCD 2010; 40 CFR 93.153
ppm = parts per million
mg/m^3 = milligram per cubic meter
µg/m^3 = microgram per cubic meter
$PM_{2.5}$ = inhalable fine particulate matter less than 2.5 microns in diameter

3.9.2 Environmental Consequences

3.9.2.1 No Action

Under the No Action Alternative, there would be no impacts to air quality since conditions would remain the same as existing conditions.

3.9.2.2 Proposed Action

Construction emissions for Reactive Organic Gases, Nitrogen oxides, Carbon monoxides, and PM_{10} were calculated for the Proposed Action utilizing the *Urbemis 2007 Version 9.2.4* model (see Table 3-4). Unmitigated calculated emissions are well below the federal *de minimis* standards.

Table 3-3 Calculated Proposed Action Emissions

Santa Barbara County General Conformity *de minimis* Thresholds			
Pollutant	**Federal Status**	***de minimis* (Tons/year)**	**Calculated project emissions (Tons/year unmitigated)**
Reactive Organic Gases (as an ozone precursor)	No designation	50	0.52
Nitrogen oxides (as an ozone precursor)	No designation	50	3.64
Carbon monoxide	Attainment	100	2.28
PM_{10}	Attainment	100	1.84
Carbon dioxide (CO_2)	No designation	25,000	363.41

Source: Rimpo & Associates, Inc. 2010; SBCAPCD 2010; EPA 2010; 40 CFR 93.153

Additionally, Parks has incorporated mitigation measures that would reduce air quality impacts from fugitive dust (see Section 2.2.4). Therefore, there would be no adverse impacts to air quality as a result of the Proposed Action and a conformity analysis is not required.

3.10 Global Climate Change

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes can contribute to climate change [changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.] (EPA 2010a)

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as CO_2, occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO_2, methane, nitrous oxide, and fluorinated gasses (EPA 2010a).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO_2 and methane, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. At present, there are uncertainties associated with the science of climate change (EPA 2010b).

3.10.1 Affected Environment

Lake Cachuma provides surface water for the communities along the South Coast of California. Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation and M&I water needed due to modified evapotranspiration rates. These changes may lead to impacts to California's water resources and project operations.

While there is general consensus in their trend, the magnitudes and onset-timing of impacts are uncertain and are scenario-dependent (Anderson *et al.* 2008).

3.10.2 Environmental Consequences

3.10.2.1No Action

Under the No Action Alternative, there would be no additional impacts to global climate change as there would be no change from existing conditions.

3.10.2.2 Proposed Action

Short-term impacts would consist of CO_2 emissions during construction. As shown in Table 3-4, these emissions have been estimated to be well below the EPA's 25,000 metric tons per year threshold for annually reporting GHG emissions (EPA 2009). Accordingly, the Proposed Action would result in below *de minimis* impacts to global climate change.

3.11 Cumulative Impacts

Cumulative impacts result from incremental impacts of a Proposed Action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. To determine whether cumulatively significant impacts are anticipated from the Proposed Action, the incremental effect of the Proposed Action was examined together with impacts from past, present, and reasonably foreseeable future actions in the same geographic area.

There are several other projects currently being worked on or proposed for the Lake Cachuma Campground. These include:

- The Mohawk Restroom Remodel Project which includes the remodeling and expansion of the existing Mohawk restroom in order to be compliant with the Americans with Disabilities Act (ADA). Parks applied to Reclamation for funding of these projects. Reclamation completed environmental analysis for the project on February 25, 2010 (CEC-09-176).
- Live Oak Restrooms Project which includes the construction of a new ADA-compliant restroom to replace existing showers and portable toilets. Leach fields for the project have already been constructed.
- A new boat ramp extension project.
- Miscellaneous ADA upgrade projects for the docks and fishing piers.
- Repavement projects for deteriorating roads within the recreation area.

An additional project in the area that would connect with Lake Cachuma includes the South Coast Conduit /Upper Reach Reliability Project proposed by Reclamation and the Cachuma Operations and Maintenance Board. The purpose of this project is to increase the operational flexibility, reliability, and the conveyance capacity of the South Coast Conduit between the South Portal of the Tecolote Tunnel and the Corona Del Mar Water Treatment Plan in order to accommodate peak demand levels and to allow maintenance of the pipeline.
The Proposed Action would not impact the implementation of these projects. While the emissions of one single project would not cause global climate change, GHG emissions from multiple projects could result in an impact. It is unlikely that all proposed projects within the

area would be done at the same time. The demolition of the existing treatment facility, construction of a new Water Treatment Facility, and addition of a new water tank could contribute to short-term global climate change impacts due to emissions of CO_2 during construction. However, the estimated CO_2 emissions from the Proposed Action are well below the EPA's 25,000 metric tons per year threshold for reporting GHG emissions. Construction emissions are also well below the *de minimis* thresholds established by the SBCAPCD. As a result, the Proposed Action is not expected to contribute to cumulative adverse impacts to global climate change or air quality.

The small amount of water required for fire suppression would not impact water deliveries for water rights, fish, or CVP contractors. Water taken out of the lake for use by the campground would continue as it has in the past; only at the new Water Treatment Facility instead of the old one. Additional water from the lake would be stored within the new water tank for future fire suppression use. Subsequent refilling of the tank would be infrequent. Therefore, the Proposed Action is not expected to have cumulative adverse impacts to water resources.

Since there are no impacts to biological resources, recreation, land use, cultural resources, ITA, and Environmental Justice from the Proposed Action when examined with other past, present, and future project impacts there would be no contribution to cumulative impacts on these resources areas. Slight beneficial impacts to socioeconomics from the increase in fire suppression capability due to the added infrastructure are within historical variations and would not contribute to cumulative impacts. Overall there would be no adverse cumulative impacts caused by the Proposed Action.

Section 4 Consultation and Coordination

4.1 Fish and Wildlife Coordination Act (16 USC § 661 et seq.)

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The Proposed Action does not involve federal water development projects. Therefore the FWCA does not apply.

4.2 Endangered Species Act (16 USC § 1531 et seq.)

Section 7 of the ESA requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species. Reclamation has determined that the Proposed Action will not affect species listed or critical habitats designated under the ESA.

4.3 National Historic Preservation Act (16 USC § 470 et seq.)

The NHPA of 1966, as amended (16 USC 470 et seq.), requires that federal agencies give the Advisory Council on Historic Preservation an opportunity to comment on the effects of an undertaking on historic properties, properties that are eligible for inclusion in the National Register. The 36 CFR Part 800 regulations implement Section 106 of the NHPA.

Section 106 of the NHPA requires federal agencies to consider the effects of federal undertakings on historic properties, properties determined eligible for inclusion in the National Register. Compliance with Section 106 follows a series of steps that are designed to identify interested parties, determine the APE, conduct cultural resource inventories, determine if historic properties are present within the APE, and assess effects on any identified historic properties.

The proposed undertaking to provide ARRA funds and the approval of the Proposed Action to Parks was determined to be the type of action that had the potential to cause effects to historic properties assuming historic properties were present. As a result, Reclamation initiated the Section 106 process outlined in the regulations at 36 CFR Part 800. Reclamation initiated an effort to identify historic properties within the APE which included examining existing literature, conducting cultural resource surveys and subsurface testing, and consulting with Indian Tribes. As a result of these efforts, Reclamation entered into consultation with the SHPO seeking their concurrence on our finding of no adverse effect to historic properties on May 3, 2010.

The consultation package made certain commitments that are expected to be followed and implemented by Parks. These commitments are, Parks would have archaeological monitors and Native American cultural monitors during ground disturbing actions and Parks would not be permitted to demolish the existing water treatment facility until such a time that Reclamation can complete its evaluation of that facility for eligibility on the National Register. Reclamation has already initiated the building inventory efforts to fulfill our commitments.

The SHPO concurred with Reclamations finding on May 24, 2010 noting that their concurrence is based on our commitments outlined in the consultation letter and Section 106 report as well as the EA-09-173 Section 3.5.1.2. The SHPO concurrence was received by Reclamation on June 2, 2010.

4.4 Indian Trust Assets

ITA are legal interests in property held in trust by the United States for federally-recognized Indian tribes or individual Indians. An Indian trust has three components: (1) the trustee, (2) the beneficiary, and (3) the trust asset. ITA can include land, minerals, federally-reserved hunting and fishing rights, federally-reserved water rights, and in-stream flows associated with trust land. Beneficiaries of the Indian trust relationship are federally-recognized Indian tribes with trust land; the United States is the trustee. By definition, ITA cannot be sold, leased, or otherwise encumbered without approval of the United States. The characterization

and application of the United States trust relationship have been defined by case law that interprets Congressional acts, executive orders, and historic treaty provisions.

There would be no impacts to ITA as a result of the Proposed Action as the nearest ITA is a Public Domain Allotment approximately 6 miles southwest of the Proposed Action location.

4.5 Migratory Bird Treaty Act (16 USC § 703 et seq.)

The MBTA implements various treaties and conventions between the United States and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns. The Proposed Action would not impact migratory birds.

4.6 Executive Order 11988 – Floodplain Management and Executive Order 11990-Protection of Wetlands

Executive Order 11988 requires Federal agencies to prepare floodplain assessments for actions located within or affecting flood plains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands. The Proposed Action would not impact wetlands and/or floodplains as there are none in the action area.

4.7 Clean Air Act (42 USC § 7506 (C))

Section 176 of the CAA requires that any entity of the Federal government that engages in, supports, or in any way provided financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable SIP required under Section 110 (a) of the CAA (42 USC § 7401 (a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards and achieving expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and that is subject to the regulations implementing the conformity requirements will, in fact conform to the applicable SIP before the action is taken.

Construction emissions would be well below the federal *de minimis* standards. Parks would also incorporate air quality mitigation measures (see Section 2.2.3) to reduce fugitive dust. Therefore, a conformity analysis is not required.

4.8 Clean Water Act (33 USC § 1311 et seq.)

Section 401

Section 401 of the Clean Water Act (CWA) (33 USC § 1311) prohibits the discharge of any pollutants into navigable waters, except as allowed by permit issued under sections 402 and 404 of the CWA (33 USC § 1342 and 1344). If new structures (e.g., treatment plants) are proposed, that would discharge effluent into navigable waters, relevant permits under the CWA would be required for the project applicant(s). Section 401 requires any applicant for an individual U. S. Army Corps of Engineers dredge and fill discharge permit to first obtain certification from the state that the activity associated with dredging or filling will comply with applicable state effluent and water quality standards. This certification must be approved or waived prior to the issuance of a permit for dredging and filling.

No pollutants would be discharged into any navigable waters under the Proposed Action so no permits under Section 401 of the CWA are required.

Section 404

Section 404 of the CWA authorizes the U. S. Army Corps of Engineers to issue permits to regulate the discharge of "dredged or fill materials into waters of the United States" (33 USC § 1344). No activities such as dredging or filling of wetlands or surface waters would be required for implementation of the Proposed Action, therefore permits obtained in compliance with CWA section 404 are not required.

Section 5 List of Preparers and Reviewers

Bureau of Reclamation

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Mike Kinsey, Supervisory Wildlife Biologist, SCCAO
Adam Nickels, Archaeologist, MP-153
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